S/182/60/000/011/003/016
A161/A029

Development of Technology for Manufacture of Hollow Axles

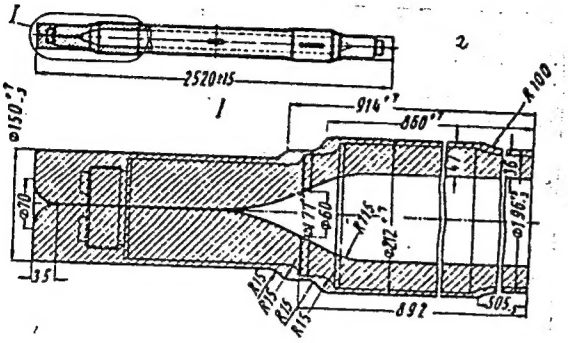

Fig. 2: Hollow axle for roller bearings

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S/182/60/000/011/003/016
A161/A029

Development of Technology for Manufacture of Hollow Axles

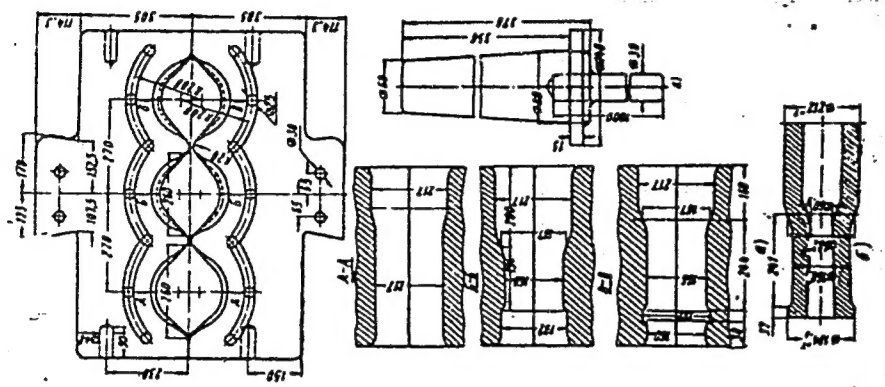

Fig. 4: Die for plan-bearings axle: a) die; b) forging; c) mandrel

Card 6/8

S/182/60/000/011/003/016
A161/A029

Development of Technology for Manufacture of Hollow Axles

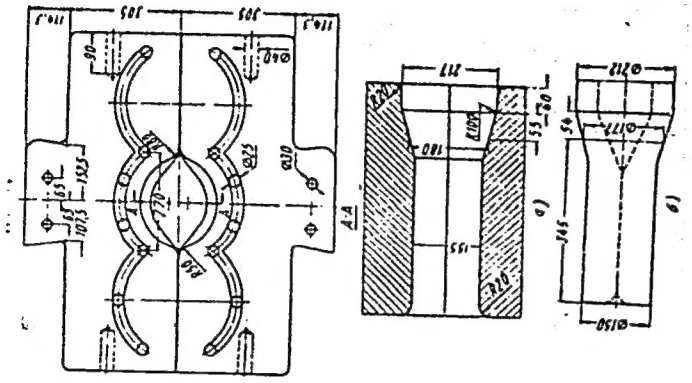

Fig. 5: Die for roller bearing axle: a) die; b) forging

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S/182/60/000/011/003/016
A161/A029

Development of Technology for Manufacture of Hollow Axles

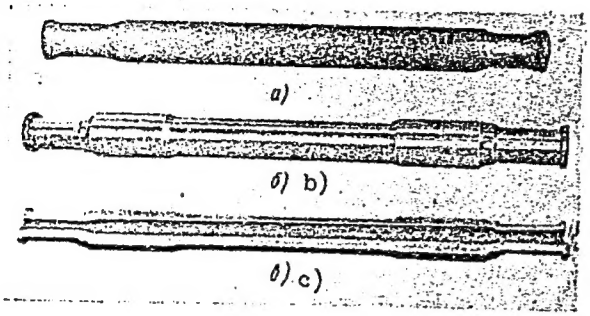

Fig. 7: Hollow axle for plain bearings: a) after forging; b) after machining; c) ready axle in cross section view

Card 8/8

SHIFRIN, M.Yu.

Increasing the output of wheel-rolling mills. Metallurg 6 no.5:28-29 My '61. (MIRA 14:5)

1. Ukrainskiy nauchno-issledovatel'skiy trubnyy institut.
(Rolling mills) (Wheels)

. SHIFRIN, M. Yu.

PHASE I BOOK EXPLOITATION SOV/6044

Rokotyan, Ye. S., Doctor of Technical Sciences, Ed.

Prokatnoye proizvodstvo; spravochnik (Rolling Industry; Handbook) v. 2. Moscow, Metallurgizdat, 1962. 685 p. 8500 copies printed.

Authors: P. A. Aleksandrov, Doctor of Technical Sciences; V. P. Anisiforov, Candidate of Technical Sciences; V. I. Bayrakov, Candidate of Technical Sciences; M. V. Barbarich, Candidate of Technical Sciences; B. P. Bakhtinov, Candidate of Technical Sciences [deceased]; B. A. Bryukhanenko, Candidate of Economic Sciences; M. V. Vasil'chikov, Candidate of Technical Sciences; A. I. Vitkin, Doctor of Technical Sciences; S. P. Granovskiy, Candidate of Technical Sciences; P. I. Grudev, Candidate of Technical Sciences; I. V. Gunin, Engineer; M. Ya. Dzugutov, Candidate of Technical Sciences; V. G. Drozd, Candidate of Technical Sciences; N. F. Yermolayev, Engineer; G. M. Katsnel'son, Candidate of Technical Sciences; M. V. Kovynev, Engineer; M. Ye. Kugayenko, Engineer; N. V. Litovchenko, Candidate of Technical Sciences; Yu. M. Matveyev, Candidate of Technical

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Rolling Industry; Handbook SOV/6044

Sciences; V. I. Meleshko, Candidate of Technical Sciences; N. V. Nekhov, Engineer; A. K. Minburg, Candidate of Technical Sciences; V. D. Nosov, Engineer; B. I. Panchenko, Engineer; O. A. Plyatskovskiy, Candidate of Technical Sciences; I. S. Pobodin, Candidate of Technical Sciences; I. A. Priymak, Professor, Doctor of Technical Sciences [deceased]; A. A. Protasov, Engineer; M. M. Saf'yan, Candidate of Technical Sciences; N. M. Fedosov, Professor; S. N. Filipov, Engineer [deceased]; I. N. Filippov, Candidate of Technical Sciences; I. A. Fomichev, Doctor of Technical Sciences; M. Yu. Shifrin, Candidate of Technical Sciences; E. R. Shor, Candidate of Technical Sciences; M. M. Shternov, Candidate of Technical Sciences; M. V. Shuralev, Engineer; I. A. Yukhvets, Candidate of Technical Sciences; Eds. of Publishing House: V. M. Gorobinchenko, R. M. Golubchik, and V. A. Rymov; Tech. Ed.: L. V. Dobuzhinskaya.

PURPOSE: This handbook is intended for engineering personnel of metallurgical and machine-building plants, scientific research

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(40)

Rolling Industry; Handbook SOV/6044

institutes, and planning and design organizations. It may also be used by students at schools of higher education.

COVERAGE: Volume 2 of the handbook reviews problems connected with the preparation of metal for rolling, the quality and quality control of rolled products, and designs of roll passes in merchant mills. The following topics are discussed: processes of manufacturing semifinished and finished rolled products (the rolling of blooms, billets, shapes, beams, rails, strips, wire, plates, sheets, and the drawing of steel wire), hot-dipped tin plates, lacquered plates, floor plates, tubes made by different methods, and special types of rolled products. Problems of the organization of rolling operations are reviewed, and types of rolled products manufactured in the USSR are shown. No personalities are mentioned. There are no references.

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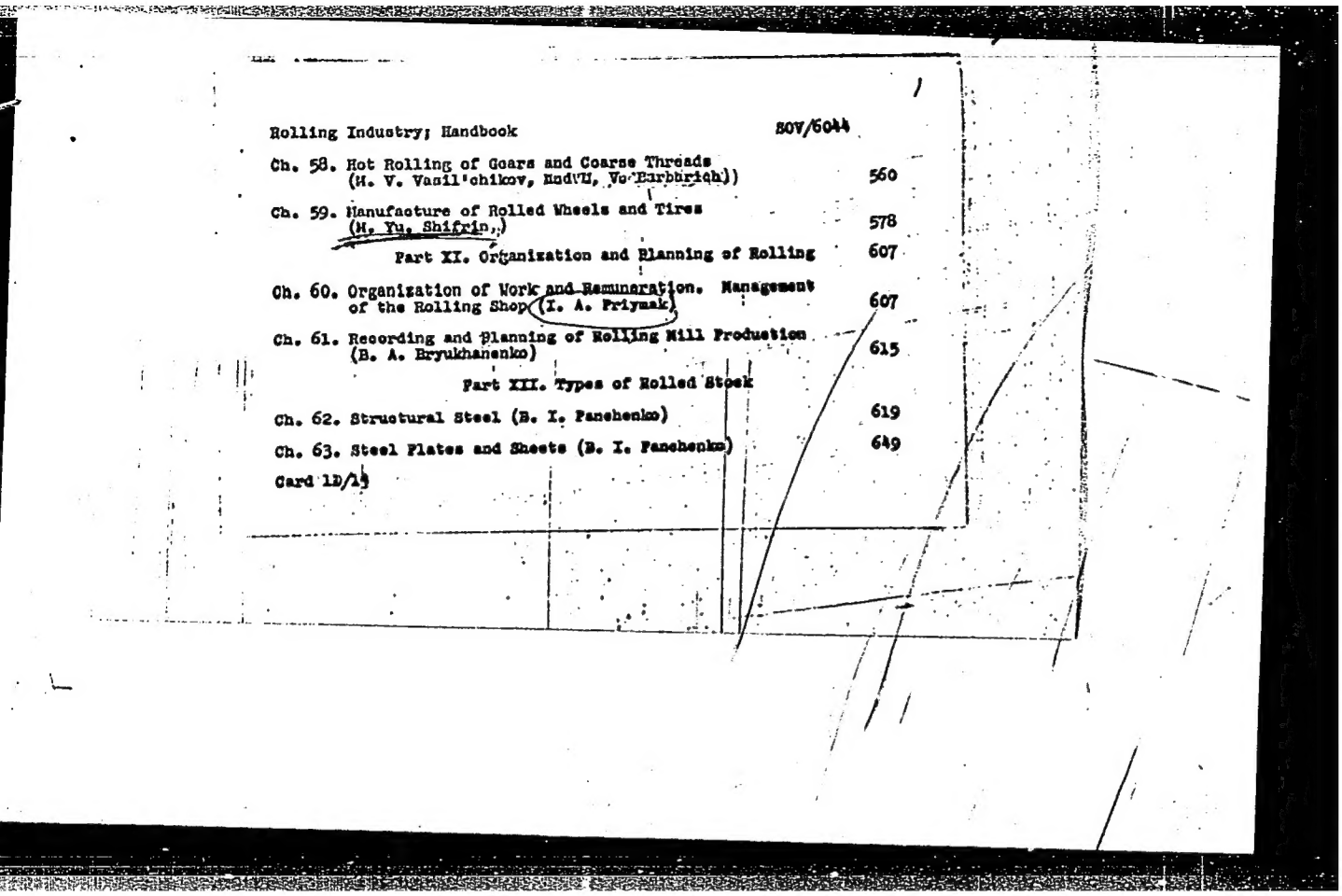

Rolling Industry; Handbook SOV/6044

Card 1D/1

SHIFRIN, M.Yu.; PIMENOV, A.R.

Barrel shape forming during the upsetting of hollow blanks. Kuz.-shtam.proizv. 5 no.7:13-15 Jl '63. (MIRA 16:9)

SHIFRIN, M.Yu.; PIMENOV, A.R.

Piercing rectangular ingots in a round container. Kuz.-shtam.proizv. 5 no.8:11-15 Ag '63. (MIRA 16:9)

SHIFRIN, M.Ya., kand. tekhn. nauk; VOLKOVITSKIY, G.I., kand. tekhn. nauk; KOLESNIK, B.P., kand. tekhn. nauk; KOVALENKO, Yu.Ye., kand. tekhn. nauk; DYUBA, M.I., inzh.; POLYAKOVA, P.K., inzh.

Manufacturing hollow railroad axles from centrifugally cast [illegible]. Proizv. trub no.12:133-146 '64. (MIRA 17:11)

SHIFRIN, M.Yu.

Zone of sticking during the upsetting of hollow cylindrical blanks. Izv. vys. ucheb. zav.; chern. met. 8 no.9:129-132 '65. (MIRA 18:9)

1. Ukrainskiy nauchno-issledovatel'skiy trubnyy institut.

Shifrin, N.G.

1648. DETERMINATION OF UNBURNT MATERIAL. Zikeev, T.A. and Shifrin, N.G. (Elekt. Sta. (Pwr Sta., Moscow), Jan. 1956, vol. 27, 11-13). To arrive at a true estimate of the amount of unburnt material remaining in the ash of furnace waste from Esthonian shale, revised formulae are put forward which make better allowance for the various chemical reactions. Results of analysis of samples of the waste, of the treatment of samples with hydrochloric acid, of determination of the carbon and hydrogen content in waste, both treated and untreated with hydrochloric acid, and of calculation of the unburnt residue of waste according to various formulae are tabulated. C.E.A.

SHIFRIN, N.K.

Problems and methods in hygiene based on I.P. Pavlov's teaching.
Gig.sanit., Moskva no.3:3-9 Mar 1951. (CIML 20:7)

1. Professor. 2. Gor'kiy.

1. SHIFRIN, N.K.; BELIAYEV, I.I.

2. USSR (600)

4. Cherkinskiy, S.N.

7. "Communal hygiene." Cherkinskiy, an article published in vol. 2 of the Great Soviet Encyclopedia, 2d ed., 1952, Reviewed by N.K. Shifrin, I.I. Beliaev. Gig. i san. no. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

SHIFRIN, N.K., professor; AVERBAKH, M.F., inzhener

Hygienic evaluation of standard plan for machine-tractor station shops. Gig. i san. 21 no.4:27-31 Ap '56. (MIRA 9:7)

1. Iz Gor'kovskogo instituta gigiyeny truda i professional'nykh zabolevaniy
(AGRICULTURE,
hyg. aspects of shops in tractor stations (Rus))

SOV/137-58-9-20338

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 318 (USSR)

AUTHOR: Shifrin, N.K.

TITLE: Certain Problems on the Physiology of Labor Upon the Introduction of New Technique in Industry (Nekotoryye voprosy fiziologii truda pri vnedrenii novoy tekhniki na proizvodstve)

PERIODICAL: V sb.: Materialy po vopr. gigiyeny truda i kliniki prof. bolezney. Gor'kiy, 1957, pp 3-10

ABSTRACT: An examination of the problems of the physiology of labor and measures intended to eliminate factors adversely affecting the health of the workers upon the employment of high-frequency heating, pneumatic hand tools, and high-speed cutting.

Ye.L.

1. Labor--Physiological factors 2. Industrial equipment --Physiological effects

Card 1/1

SHIFRIN, N.K.

"Problems in rural hygiene; a collection of papers from the Leningrad Institute of Medicine in Sanitation and Hygiene." Reviewed by N.K. Shifrin. Gig. i san 22 no.7:91-93 Jl '57. (MIRA 10:10)
(PUBLIC HEALTH, RURAL)

Shifrin, R. A.

1962. Use of ammonium salts in analytical chemistry. [Detection of iron, manganese and copper.] A. Kh. Batalin and R. A. Shifrin. (*Uchenye Zap. Permsk. Gos. Farmatsevt. Inst.*) *Khim. Obsikch. im. D. I. Mendeleeva, Chelyabinsk Otd.*, 1954, (6), 27–30; *Ref. Zhur., Khim.*, 1955, Abstr. No. 26,387.—Certain peculiarities of dissolution of heavy-metal hydroxides and ferrocyanides in conc. solutions of ammonium salts in the presence of NaOH are studied. To separate and detect Fe^{+++} in the presence of Cu^{++}, Mn^{++}, Cd^{++}, Bi^{+++}, Ni^{++}, Co^{++}, Pb^{++}, Cr^{+++} and Al^{+++}, the solution is treated with excess of $K_4Fe(CN)_6$ followed by excess of conc. ammonium chloride or nitrate solution and then by excess of 10 per cent. NaOH solution. Only Fe and some of the Mn is pptd. Some of the solution is filtered and the ppt. is treated with a few drops of HCl to give Prussian blue, which indicates the presence of Fe. To separate Mn^{++}, the mixture of cations is treated with excess of NH_4Cl and excess of NaOH and the solution is filtered quickly. After 5 to 10 min. a ppt. of MnO_2 appears in the filtrate; Mn is identified by means of one of the usual methods. To detect Cu^{++} in the presence of Fe^{+++}, the solution is treated with $K_4Fe(CN)_6$, an excess of NH_4^+ and an excess of NaOH. The ppt. contains $Fe(OH)_3$ and the solution is coloured blue from $[Cu(NH_3)_4]^{++}$. G. S. Smith

USSR/Mining Methods Jul 48
Ore Dressing

"Let Us Pay More Attention to Dressing 'Self-Fluxing' Ore at the Krivoy Rog Mines," S. D. Shifrin, Engr, 1 p

"Gor Zhur" No 7

Process of "self fluxing" ore is predetermined by physical properties of the ore and the impurity of rocks. Gives several methods for dressing mineral rock. Points out necessity for arranging light dressing installations on the basis of practical experience at Ural mines. Recommends such installations at Krivoy Rog mines.

[redacted]

33/49T88

SHIFRIN, Semen Markovich

(Leningrad Construction Engineering Inst) Academic degree of Doctor of Technical Sciences, based on his defense, 23 April 1955, in the Council of the All-Union Sci Res Inst of Water Supply, Sewerage, Hydraulic Engineering, and Engineering Hydrology, of his dissertation entitled: "Purification of sewage by the method of settling."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 21, 22 Oct 55, Byulleten' MVO SSSR, No. 19, Oct 56, Moscow, pp. 13-24, Uncl. JPRS/NY-536

. SHIFRIN, S. M.

USSR/Chemical Technology. Chemical Products and Their Application--Water treatment. Sewage water I-12

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 9150

Author : Shifrin, S. M.
Inst : Not given
Title : A New Method for Designing Vertical-Flow Sewage Settling Tanks for a Given Degree of Clarification of the Sewage Liquid

Orig Pub: Vodosnabzheniye i san. tekhnika, 1955, No 2, 27-31

Abstract: A method is proposed for the design of vertical-flow sewage settling tanks based on the assumption that the dispersed solids settle from the sewage water (SW) not during its upward flow in the cylindrical section of the settling tank (as it customarily assumed) but during the radial motion of the SW (on leaving the circular slit) between the lower edge of the cone of the vertical pipe and the inclined surface of the deflecting plate. The author

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Card 2/2

SHIFRIN,S.M.; ASS, M.I.

Investigation of the functioning of a methane sewage tank with a floating cover under mesophilic and thermophilic conditions. Vod. i san. tekh. no.4:23-26 J1'55. (MLRA 8:12)
(Sewage disposal)

SOV/124-57-5-5790

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 107 (USSR)

AUTHORS: Shifrin, S. M., Ivanov, G. V.

TITLE: Analog Simulation of Vertical Settling Tanks (Modelirovaniye vertikal'nykh otstoynikov)

PERIODICAL: Nauch. tr. Leningr. inzh.-stroit. in-ta, 1955, Nr 20, pp 38-58

ABSTRACT: Description of a laboratory method and the results derived therefrom are given relative to the investigation of vertical settling tanks with the aim of developing an efficient system of settling tanks for the sewerage-purging system of the Leningrad Meat-proc ssing Plant currently being rebuilt (8 vertical circular settling tanks of usual design with a 6-m diameter and an 8-m height). The investigations were conducted at the laboratory of the LISI (Leningrad Structural Engineering Institute) with the aid of a model manufactured out of plexiglas and scaled to 1:15. The simulation was conducted according to the A. G. Averkiyev method (Vses. n.-i. in-t gidrotekhn., 1952) based on the analog simulation of a free surface with the substitution of a pressure flow for the free-surface flow. The authors consider it feasible to evaluate the hydraulic performance characteristic of the

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Analog Simulation of Vertical Settling Tanks

settling tank according to the coefficient of water circulation, i. e., the ratio of the sum total of the transient and twice the circulatory discharge of water divided by the transient discharge at the characteristic cross section of the settling tank.

Kh. A. Navoyan

NAVROTSKIY, Georgiy, Aleksandrovich, kandidat tekhnicheskikh nauk; RUSKEVICH, Mikhail Leont'yevich; SHIFRIN, S.M., nauchnyy redaktor; BUKOVA, I.V., redaktor; EGGERT, A.P., tekhnicheskiy redaktor

[Automatic cold upsetting machinery] Kholodnovysadochnye avtomaty. Moskva, Vses. uchebno-pedagog. izd-vo Trudrezervizdat, 1956. 68 p. (MLRA 9:7)
(Metal working machinery)

SHIFRIN, Semen Markovich, doktor tekhnicheskikh nauk, professor; SHIGORIN, G.G., kandidat tekhnicheskikh nauk, nauchnyy redaktor; KAPLAN, M.Ya., redaktor izdatel'stva; PUL'KINA, Ye.A., tekhnicheskiy redaktor

[Modern methods for mechanical purification of sewage] Sovremennye sposoby mekhanicheskoi ochistki stochnykh vod. Leningrad, Gos. izd-vo lit-ry po stroit. i arkhit., 1956. 179 p. (MLRA 10:4)
(Sewage--Purification)

SHIFRIN, S.M.

USSR /Chemical Technology. Chemical Products and Their Application
Water treatment. Sewage water.

H-5

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1750

Author : Shifrin S.M.

Inst : Leningrad Institute of Civil Engineering

Title : Modern Methods of Clarifying Sewage Water

Orig Pub: Sb.: 15-ya nauchn. konferentsiya Leningr. inzh. stroit. in-ta, L., 1957, 213-216

Abstract: A method has been worked out for the calculation of vertical settling tanks (S), which takes into account the inflow velocity of sewage water to the S through the annular cross-section between the end of the funnel shaped central pipe (CP) and the baffle plate. This velocity is limited

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USSR /Chemical Technology. Chemical Products and Their Application
Water treatment. Sewage water.

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1750

fractions of unity; U_0 inflow velocity of sewage water to the S, in m/second; Z -- length of S beyond WR, in M; H -- working depth of S in m; μ_0 concentration of CDA in the initial sewage water, in g/m^3. Total working length of S is $L = Z - 3.8 H$. When data on concentration of CDA in the initial sewage water are available and the clarification effect to be attained is set, optimal working depth of the S, or its length, is selected according to the local conditions.

Card 3/3

SHIFRIN, S.M.

New method for planning sewage tanks. Vod. i san. tekh. no.3:5-7 Mr '57. (MLRA 10:6)
(Sewage--Purification)

SOV/124-58-3-3071

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 75 (USSR)

AUTHOR: Shifrin, S' M'

TITLE: Design Calculation of Horizontal Sewer Settling Chambers for a Given Degree of Liquid Clarification (Raschet gorizontal'nykh kanalizatsionnykh otstoynikov na zadannyy effekt osvetleniya stochnoy zhidkosti)

PERIODICAL: Nauchn. tr. Leningr. inzh.-stroit. in-ta, 1957, Nr 25, pp 14-27

ABSTRACT: The article presents an approximate solution for the precipitation of suspended matter in two portions of a horizontal sewer chamber: 1) The main portion, 2) the initial portion which includes the turning zone. Graphs are given to permit a quick determination of the chamber parameters when the depth is 1, 1.5, and 2 m and when the degree of clarification is specified, or vice-versa. An example of the calculation is given.

O. L. Yushmanov

Card 1/1

SHIFRIN, S.M.

BARSUKOV, A.A., inzh., laureat Leninskoy premii; BORISOV, Yu.S., inzh.; VAKS, D.I., inzh.; VLADZIYEVSKIY, A.P., doktor tekhn. nauk; prof., laureat Stalinskoy premii; GINZBURG, Z.M., inzh.; GLEYZER, V.Ye., inzh.; ZOBIN, V.S., inzh.; KAZAK, M.I., dots.; KAMINSKAYA, V.V., kand. tekhn. nauk; KEDRINSKIY, V.N., inzh., laureat Leninskoy premii; KUCHER, A.M., kand. tekhn. nauk; KUCHER, I.M., kand. tekhn. nauk; LEVINA, Z.M., inzh.; LUK'YANOV, T.P., inzh.; MOROZOVA, Ye.M., inzh.; NOSKIN, P.A., kand. tekhn. nauk, dots.; NIBERG, N.Ya., kand. tekhn. nauk; OSTROUMOV, G.A., inzh.; PLOTKIN, I.B., inzh.; SPIVAK, E.D., kand. tekhn. nauk; SUM-SHIK, M.R., inzh.; SHASHKIN, P.I., inzh.; SHIFRIN, S.M., inzh.; YAKOBSON, M.O., doktor tekhn. nauk, prof.; GLINER, B.M., inzh., red.; SOKOLOVA, T.F., tekhn. red.

[Handbook for mechanics of machinery plants in tow volumes] Spravochnik mekhanika mashinostroitel'nogo zavoda v dvukh tomakh. Vol.1. [Organization and design preparation for repair work] Organizatsiia i konstruktorskaia podgotovka remontnykh rabot. Otv. red. toma R.A. Noskin. 1958. 767 p. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry. (MIRA 11:8)

(Machinery--Maintenance and repair)

SHIFRIN, S.M.

AGRANONIK, Ye.Z., kand.tekhn.nauk; BELOV, A.N., dotsent; GLADKOV, A.M., inzh.; GLUSKIN, S.A., inzh.; IVANOV, L.V., dotsent, kand.tekhn. nauk; LIPKIN, Ye.V., kand.tekhn.nauk; NIKIFOROV, G.N., dotsent, kand.tekhn.nauk; PESENSON, I.B., inzh.; PREGER, Ye.A., dotsent, kand.tekhn.nauk; PYATOV, Ya.N., inzh.; ROKHCHIN, Ye.Z., inzh.; FEDOROV, N.F., prof., doktor tekhn.nauk; SHVARTS, K.B., inzh.; SHIGORIN, G.G., dotsent, kand.tekhn.nauk; SHIFRIN, S.M., prof., doktor tekhn.nauk; POPRUGIN, I.V., inzh., retsenzent; KATS, K.F., inzh., retsenzent; ROTENBERG, A.S., red.izd-va; VORONETSKAYA, L.V., tekhn.red.

[Manual of water-supply engineering and sewerage] Spravochnik po vodosnabzheniiu i kanalizatsii. Pod red. N.F.Fedorova. Leningrad, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1959. 410 p. (MIRA 13:3)

1. Moscow. Gosudarstvennyy proyektnyy institut Vodokanalproyekt. Leningradskoye otdeleniye.
(Water-supply engineering) (Sewerage)

State Dept. Planning Canal Design
Leningrad Dept.

AGRANONIK, Ye.Z., kand.tekhn.nauk; BELOV, A.N., dotsent; GLADKOV, A.M., inzh.; GLUSKIN, S.A., inzh.; IVANOV, L.V., dotsent, kand.tekhn. nauk; LIPKIN, Ye.V., kand.tekhn.nauk; NIKIFOROV, G.N., dotsent, kand.tekhn.nauk; PESENSON, I.B., inzh.; PREGER, Ye.A., dotsent, kand.tekhn.nauk; PYATOV, Ya.N., inzh.; ROKHCHIN, Ye.Z., inzh.; FEDOROV, N.F., prof., doktor tekhn.nauk; SHVARTS, R.B., inzh.; SHIGORIN, G.G., dotsent, kand.tekhn.nauk; SHIFRIN, S.M., prof., doktor tekhn.nauk; ROTENBERG, A.S., red.izd-va; VORONETSKAYA, L.V., tekhn.red.

[Water-supply and sewerage manual] Spravochnik po vodosnabzheniiu i kanalizatsii. Pod red. N.F.Fedorova. Izd.2., ispr. i dop. Leningrad, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 420 p. (MIRA 13:12)

1. Moscow. Vodokanalproyekt. Leningradskoye otdeleniye. (Water-supply engineering) (Sewerage)

FEDOROV, N.F.; SHIFRIN, S.M.; SHIGORIN, G.G.; PESENSON, I.B.; MORGENSHTERN, V.S., kand. tekhn. nauk, nauchnyy red.; KAPLAN, M.Ya., red. izd-va; PUL'KINA, Ye.A., tekhn. red.

[Sewerage systems and structures; planning and design] Kanalizatsionnye seti i sooruzheniia; proektirovanie i raschet. Leningrad, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 314 p. (MIRA 14:7)

(Sewerage)

SHIFRIN, Semen Markovich, doktor tekhn.nauk; IVANOV, Gleb Valerianovich, kand.tekhn.nauk; KOMAROVSKIY, M.F., red.; FREGER, D.P., red. izd-va; GVIRTS, V.L., tekhn.red.

[Clarifier with natural aeration for the purification of waste waters] Osvetlitel' s estestvennoi aeratsiei dlia ochistki stochnykh vod. Leningrad, 1961. 17 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Stroitel'naia promyshlennost', no.14)

(MIRA 14:12)

(Sewage--Purification)

SHIFRIN, S.M. (Leningrad); ASS, M.I. (Leningrad); DUAN FU-LIN (Leningrad)

Effect of high gas pressure under the charge hole of blast furnaces on the operation of radial clarifying tanks. Vod. i san. tekh. no.10:20-22 O '61. (MIRA 14:11)
(Water--Purification)
(Blast furnaces)

SHIFRIN, Semen Markovich, doktor tekhn. nauk, prof.; ZEL'DOVICH, Rafail Nekhem'yevich, , kand. ekonom. nauk, dots.; DANILOV, Petr Mikhaylovich, ekonom.; REZNIK, A.I., red.; UCHITEL', I.Z., red. izd-va; LELYUKHIN, A.A., tekhn. red.

[The economics of water supply and sewerage management and construction]Ekonomika vodoprovodno-kanalizatsionnogo khoziaistva i stroitel'stva. Pod obshchei red. S.M.Shifrina. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1962. 357 p. (MIRA 15:11)

(Water supply) (Sewerage)

SHIFRIN, S.M., doktor tekhn. nauk, prof., otv. red.

[Water supply and sewerage; reports of the 20th Scientific Conference]Vodosnabzhenie i kanalizatsiia; doklady XX nauchnoi konferentsii. Leningrad, 1962. 96 p. (MIRA 16:2)

1. Leningrad. Inzhenerno-stroitel'nyy institut. Nauchnaya konferentsiya.
(Water-supply engineering) (Sewage--Purification)

SHIFRIN, S.M., doktor tekhn. nauk; SOLOMAKHIN, I.I., inzh.

Purifying the waste waters of meat-packing plants. Vod. i san. tekh. no.4:18-21 Ap '64 (MIRA 18:1)

SHIFRIN, S.M., doktor tekhn. nauk (Leningrad); BURTSEV, V.P., inzh. (Leningrad)

Purification of waste waters of cheese factories. Vod. i san. tekh. no.10:30-32 O '65. (MIRA 18:11)

KOZ'YAKOV, N.I.; SHIFRIN, S.S.; LAPTEV, I.D., red.; GOL'DBERG, M.L., red.; VESKOVA, Ye.I., tekhn.red.

[For the highly profitable operation of each state farm] Za vysokodokhodnuiu rabotu kazhdogo sovkhoza. Moskva, Gos. izd-vo sel'khoz.lit-ry, 1956. 278 p. (MIRA 13:1)

1. Deystvitel'nyy chlen Vsesoyuznoy Akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Laptev).
(State farms)

SHIFRIN, S.S.

Concentration of radiophosphorus in gastrointestinal tumors. [with summary in English]. Eksper.khir. 3 no.5:51-54 S-O '58 (MIRA 11:11)

1. Iz kafedry rentgenoradiologii (zav. - prof. P.D. Yal'tsev) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova (dir. - prof. V.N. Kovanov).
(GASTROINTESTINAL SYSTEM, neoplasms, radiophosphorus uptake (Rus))
(PHOSPHORUS, radioactive, tumor uptake ingastrointestinal system (Rus))

APROSINA, Z.G., kand.med.nauk, SHIFRIN, S.S.

Cholecystography and results in Botkin's disease. Sov.med. 22 no.8:21-27 Ag '58 (MIRA 11:10)

1. Iz kafedry obshchey i gospital'noy terapii sanitarno-gigiyenicheskogo fakul'teta (zav. - deystvitel'nyy chlen AMN SSSR prof. Ye.M. Tareyev) i kafedry rentgenologii i radiologii (zav. - prof. P.D. Yal'tsev) I Moskovskogo Ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(HEPATITIS, INFECTIOUS, pathol.
liver changes, value of cholecystography (Rus))
(CHOLECYSTOGRAPHY, in various dis.
liver cirrhosis (Rus))

SHIFRIN, S.S.

Experience in the use of radioactive phsophorus for the diagnosis of cancer of the cervix uteri. Sov.med. 23 no.8:94-98 Ag '59.
(MIRA 12:12)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. K.N. Zhmakin) i kafedry rentgenoradiologii (ispolnyayushchiy obyazannosti zaveduyushchego kafedroy - kand.med.nauk I.I. Fedorov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(PHOSPHORUS radioactive)
(CERVIX UTERI neoplasms)

SHIFRIN, S. S., Cand Med Sci (diss) -- "The accumulation of radioactive phosphorus in tumors, and the possibility of using radiometric investigation for diagnosing cancer of the cervix uteri". Moscow, 1960. 15 pp (First Moscow Order of Lenin Med Inst im I. M. Sechenov), 200 copies (KL, No 10, 1960, 138)

SHIFRIN, S.S.

Fifth Hungarian Oncological Congress in Budapest in 1961.
Med. rad. 8 no.4:92-93 Ap'63 (MIRA 17:2)

MEL'NIKOV, N.A.; SHIFRIN, S.S.

X-ray diagnosis of late sequelae of a closed cranial trauma in children. Chur. nevr. i psikh. 64 no.7:1013-1015 '54. (MIRA 17:12)

1. Kafedra nervnykh boleznye (zaveduyushchiy - prof. V.V. Mikheyev) I Moskovskogo ordena Lenina meditsinskogo instituta im. I.M. Sechenova.

SHIFRIN, S.S., kand. med. nauk

X-ray examination in cervical osteochondrosis. Trudy 1-go MMI 38:211-220 '65. (MIRA 18:10)

SHTUL'MAN, D.R., assistent; SHIFRIN, S.S., kand. med. nauk; KOLOMOYTSEVA, I.P., assistent; RUMYANTSEV, Yu.V.

Clinical and roentgenological correlations in discogenic cervical myelopathy. Trudy 1-go MMI 38:235-246 '65. (MIRA 18:10)

RUMYANTSEV, Yu.V.; SHIFRIN, S.S., kand. med. nauk

Myelography in discogenic cervical myelopathy. Trudy 1-go MMI 38:247-258 '65. (MIRA 18:10)

AISTOV, N.N., prof., doktor tekhn. nauk; VASIL'YEV, B.D., prof., doktor tekhn. nauk; IVANOV, V.F., prof., doktor tekhn. nauk; SAKHNOVSKIY, K.V., prof., doktor tekhn. nauk; SMIRNOV, N.A., prof.; ORLOV, A.I., dots., kand. tekhn. nauk; SHIFRIN, S.M., prof., doktor tekhn. nauk; Prinimali uchastiye: AKIMOVA, L.D., kand. tekhn. nauk, dots.; SPIRIDONOVA, O.M., kand. tekhn. nauk, dots.; MAKUKHIN, V.L., nauchnyy red.; STAROVOYTOV, I.F., inzh., red. izd-va; PUL'KINA, Ye.A., tekhn. red.

[The history of building practices] Istoriia stroitel'noi tekhniki. [By] N.N.Aistov i dr. Pod obshchei red. V.F.Ivanova. Leningrad, Gosstroiizdat, 1962. 560 p. (MIRA 15:12)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Vasil'yev, Sakhnovskiy).

(Building)

SHIFRIN, T.A., inzhener.

Over-all mechanization of small capacity factory boilers. Stroi.i dor.mashinostr. 1 no.1:30-33 Ja '56. (MLRA 10:1)
(Boilers)

SHIFRIN, T.A., inzhener.

Modernizing type TV-1, TL-1, and TO lathes. Stroi. i dor.mashino-str. 1 no.3:35 Mr '56. (MLRA 10:1)
(Lathes)

SHIFRIN, T.A., inzhener.

More attention to preparations for wintertime work. Stroi. i dor. mashinostr. no.9:25-26 S '56. (MLRA 9:11)
(Machinery industry)

RYAKHIN, V.A., kand.tekhn.nauk; ZAYTSEV, L.V., inzh.; SHIFRIN, T.A., inzh.

Effectiveness of the specialized manufacture of standardized series of excavators and cranes. Stroi. i dor. mash. 10 no.7:1-3 Jl '65. (MIRA 18:8)

SHIFRIN, V.

How to make a simple surveyor's stake.. Avt. dor. 27 no.4:28 Ap '64. (MIRA 17:9)

SHIFRIN, V.B., inzh.

Automatic device using the two-frequency method for controlling concrete setting. Stroi. i dor. mash. 10 no.4:26-27 Ap '65. (MIRA 18:5)

SHAN'GIN, N.V.; SHIFRIN, V.Ya.

Relation between the speed of a linear wave and porosity and its use in ultrasonic seismic logging of boreholes. Uch.zap.LGU no.303:158-166 '62. (MIRA 15:11)
(Seismic prospecting) (Porosity)

SHIFRIN, V. L.

PA 12/49T68

USSR/Engineering Aug 48
Peat Industry
Peat - Drying

"Problems of Laying Out Subconveyor Belts for the Removal of Cut Peat by the UMPF-4 Machines," V. L. Shifrin (Giprotorf), 1¼ pp

"Torf Prom" No 8

Describes new scheme for drying cut peat.

[redacted] 12/49T68

[illegible], M. I.

Peat

Volume weight of cut peat in the stacks. Torf. prom. 29 no. 5, 1952.

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, August 1952, Uncl.

SHEKIN, V. L.

Peat Industry

Extent of technological estimates in designing peat enterprises. Torf. prom, 29, No. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, October, 1952. UNCLASSIFIED.

SHIFRIN, V. L., Eng.

Peat Bogs

Mathematical method of determining reserves in peat deposits.
Torf. prom. 29 No. 9, 1952.

Monthly List of Russian Accessions, Library of Congress,
December, 1952. UNCLASSIFIED.

SHIFRIN, V.L., inzhener.

Method for the determination of peat reserves with the aid of aerial photographs. Torf.prom. 34 no.5:24-28 '57. (MIRA 10:10)
(Peat bogs) (Photography, Aerial)

SHTERN, A.A.; SHIFRIN, Y.A. [Shyfrin, I.A.], inzh.

First Soviet firm. Leh.prom. no.1:6-9 Ja-Mr '62. (MIRA 15:9)

1. L'vovskaya obuvnaya firma "Progres". 2. Glavnyy inzh. L'vovskoy obuvnoy firmy "Progres" (for Shtern).
(Lvov economic region—Shoe industry) (Industrial organization)

SHUBARIN, Yuriy Vasil'yevich; MISHCHENKO, Yu.A., dotsent, retsenzent; SHIFRIN, Ya.S., dotsent, retsenzent; TERESHCHENKO, A.I., dotsent, otv.red.; BAZILYANSKAYA, I.L., red.; NIKULINA, N.I., tekhred.

[Microwave antennas] Antenny sverkhvysokikh chastot. Khar'kov, Izd-vo Khar'kovskogo gos.univ., 1960. 283 p.
(MIRA 14:1)

(Antennas (Electronics))

30292
S/109/61/006/011/007/021
D266/D305

9,1914

AUTHOR: Shifrin, Ya.S.

TITLE: Correlation characteristics of the radiation patterns of linear antennas

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 11, 1961, 1846 - 1858

TEXT: The purpose of the paper is to determine the correlation function of the radiation pattern, and to calculate the probability that in certain directions (at the maxima of the side-lobes) the amplitude of the radiation pattern does not exceed a predetermined value. It is assumed that the random errors influence only the phase of the electric field. In the absence of any errors the phase along the antenna is taken to be constant, i.e. the distribution function, A(x) is assumed real. The random phase errors are represented by a function $\varphi(x)$ (assumed to be small) whose average is zero. The fluctuation of the radiation pattern is then obtained in the following form:

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Correlation characteristics of ...

$$\angle f(\psi) = \int_{-\frac{L}{2}}^{+\frac{L}{2}} \varphi(x)\, A(x)\, e^{j\psi x}\, dx \qquad (2)$$

where $\psi = \frac{2\pi}{\lambda} \sin\theta$; θ = angle between the normal to the system and the direction of the point investigated, λ = wavelength, L = length of the antenna, $f(\psi)$ = radiation pattern. The correlation function of $f(\psi)$ is defined as follows

$$K_f(\psi, \psi_1) = \overline{\Delta f(\psi)\, \Delta f^*(\psi_1)}. \qquad (3)$$

Introducing furthermore the relationship

$$\overline{\varphi(x)\, \varphi(x_1)} = r\sigma(x)\, \sigma(x_1)$$

where r = coefficient of correlation and σ^2 = mean square of the phase distribution $\sigma^2(x) = \overline{\varphi^2(x)}$. The coefficient of correlation is assumed in the following form:

$$r = e^{-(x - x_1)^2 / \sigma^2}$$

Card 2/ 8 4

Correlation characteristics of ...

$$P_k = e^{-\frac{[v(\psi_k)]^2+\bar{a}_k^2}{2\sigma_k^2}} \sum_{n=1}^{\infty} \left(\frac{v(\psi_k)}{\bar{a}_k}\right)^n I_n\left(\frac{\bar{a}_k v(\psi_k)}{\sigma_k^2}\right). \quad (15)$$

where $$\bar{a}_k = \int_{-1}^{+1} A(x) \cos \psi_n x \, dx$$

and I_n - modified Bessel function of the n-th order. After a number of simplifying assumptions, the author derives the following simple formula for the probability that none of the side-lobes exceed the theoretical value

$$P = 0.25^N \quad (20)$$

where N is the number of side-lobes investigated. As a concrete example the effect of manufacturing tolerance is discussed. Ther are 5 figures and 8 references: 7 Soviet-bloc and 1 non-Soviet-b

SUBMITTED: May 10, 1961

Card 4/5 4

Correlation characteristics of ...

where $c = 2\rho/L$ and ρ is the correlation interval. With these assumptions an analytical solution is obtained for the correlation function. The normalized correlation function, R_f is plotted in Fig. 1 against ψ for $\psi_1 = 0$ and for various values of the parameter c. It can be seen that for large values of c the absolute value of $R_f(0, \psi)$ is very near to unity. In practical cases ρ is of the order of λ while L is much larger than λ, therefore $c \ll 1$. In this case the normalized correlation function has the simple form

$$R_f(\psi; \psi_1) \approx \frac{\sin(\psi - \psi_1)}{\psi - \psi_1}. \qquad (11)$$

The author next considers the problem that what is the probability P_k that in the direction ψ_k the amplitude of the radiation pattern exceeds $v(\psi_k)$. The result is obtained in the form

Card 5/6 4

SHIFRIN, Ya.S. (Khar'kov)

Effect of fluctuations in an incident wave on the diffraction pattern in the focal plane of a lens. Akust.zhur. 7 no.2:248-255 '61. (MIRA 14:7)

(Wave motion, Theory of) (Diffraction)

SHIFRIN, Ya.S.

Concerning the article "Correlation characteristics of the field of a linear antenna." Radiotekh. i elektron. 7 no.12:2105 D '62. (MIRA 15:11)
(Radio--Antennas) (Antennas (Electronics))

43206
S/046/62/008/004/010/017
B108/B186

AUTHOR: Shifrin, Ya. S. (Khar'kov)

TITLE: Correlation characteristics of a diffraction pattern produced by a focusing system

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 4, 1962, 460-465

TEXT: The correlation function for the diffraction field in the focal plane of a paraxial focusing system is calculated. Expanding the transverse correlation function of the field (L. A. Chernov. Rasprostraneniye voln v srede so sluchaynymi neodnorodnostyami - Propagation of waves in a medium with random inhomogeneities - M., Izd-vo AN SSSR, 1958; Akust. zh., 1957, 3, 2, 192-194) into a series with regard to the mean square fluctuations α of amplitude and phase, the normalized correlation function assumes the form

$$R = \frac{\sum_{m=1}^{\infty} \frac{\alpha^m}{m!} I(c_m, \psi_1, \psi_2) I(c_m, \psi_3, \psi_4)}{\sqrt{\sum_{m=1}^{\infty} \frac{\alpha^m}{m!} I_0(c_m, \psi_1) I_0(c_m, \psi_3) \sum_{m=1}^{\infty} \frac{\alpha^m}{m!} I_0(c_m, \psi_2) I_0(c_m, \psi_4)}}, \qquad (5)$$

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Correlation characteristics of a...

where $c_m = \frac{2a}{\sqrt{mh}}$, $\psi_1 = \frac{khy'}{2f}$, $\psi_2 = \frac{khy''}{2f}$, $\psi_3 = \frac{khz'}{2f}$, $\psi_4 = \frac{khz''}{2f}$.

and where, e.g., $I_o(c_m,\psi_1)=I(c_m,\psi_1,\psi_2)=\int_{-1}^{+1}\int \exp\left[-\frac{(x_1-x_2)^2}{c_m^2}+j\psi_1(x_1-x_2)\right]dx_1dx_2$.

a is the correlation radius of the refractive index of the medium, f is the focal length, k is the wave number, h is the length of the square aperture of the focusing system, y', y", z', z" are the coordinates of the points of observation. Some special cases are treated in order to illustrate the character of the correlation function as depending on the amount of the fluctuations and on the ratio of the size of the system to the correlation radius. The results can be used to study the correlation function of the far field of an antenna. There are 3 figures.

SUBMITTED: June 2, 1961

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S/109/63/008/003/005/027
D413/D308

AUTHOR: Snifrin, Ya. S.

TITLE: Field statistics of a linear antenna

PERIODICAL: Radiotekhnika i elektronika, V. 8, no. 3, 1963, 400-407

TEXT: In normally statistical estimation of the parameters of antenna systems, the errors in the phase-amplitude distribution of the sources are assumed to be small, and the correlation radius of the errors to be much smaller than the linear dimensions of the antenna. These assumptions may, however, be invalid for a number of cases, such as wind deformation or the effect of fluctuations in the incident wave. The author examines the statistics of the antenna field for any arbitrary errors and correlation radius, taking a linear cophased system of continuously distributed sources with random phase errors and assuming uniform distribution for the amplitude and dispersion of the

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Field statistics...

phase errors. A general expression for the radiation pattern of the antenna under these conditions is derived, and graphs of mean radiation patterns obtained for various combinations of dispersion and correlation radius are presented. These show that, as the error dispersion increases, the pattern gradually changes to a monotone-decreasing form, with the power in the maximum decreasing; as the correlation radius increases, the pattern approaches its fluctuation-free form, with the power in the maximum increasing. The width of the main lobe of the mean radiation pattern is derived for the case of small phase errors, and the broadening of the beam is shown to be at maximum when the correlation radius is $\sim$0.4 of the array length. Reference is also made to the corresponding results for errors that are not small. There are 8 figures.

SUBMITTED: March 12, 1962

ACCESSION NR: AP4045819 S/0106/64/000/009/0012/0017

AUTHOR: Shifrin, Ya. S.; Tarasov, V. A.; Trashkov, P. S.

TITLE: Experimental investigation of some problems of long-distance tropospheric propagation of 10-cm-band radio waves. Part 2

SOURCE: Elektrosvyaz', no. 9, 1964, 12-17

TOPIC TAGS: radio communication, tropospheric propagation, radio wave, radio wave propagation, 10 cm wave propagation

ABSTRACT: Experiments which were conducted in the Autumn of 1961 and in the Summer of 1962 on 80, 205, and 255-km land routes are described. Both transmitting and receiving antennas had a 0.7°-wide radiation pattern; the receiving antenna was rotated at 18° or 36° per sec. The angles of recording the radiation pattern were 1.8° or less and 3.6° or less for the speeds of antenna rotation of 18° and 36°, respectively; hence, the radiation patterns were regarded as

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L 17665-65 EEO-2/EWT(d)/FSF(h)/EWT(1)/EEC(k)-2/EEC-4/EEC(t)/EED-2 Pm-4/Pn-4/
Pac-4/Pg-4/Pt-10/Pi-4/Pj-4/Pk-4/Pl-4 AFWL/SSD/RAEM(a)/AFTC(b)/ESD(gs) RB/WS/WR

ACCESSION NR: AP4043713 S/0106/64/000/008/0001/0008

AUTHOR: Shifrin, Ya. S.; Tarasov, V. A.; Trashkov, P. S. B

TITLE: Experimental investigation of some problems of long-distance tropospher radio-wave propagation in the 10-cm band

SOURCE: Elektrosvyaz', no. 8, 1964, 1-8

TOPIC TAGS: tropospheric radio wave propagation, autocorrelation function, signal fluctuation, signal fluctuation spectrum, radar transmitter, angular diversity reception, space diversity reception, diversity reception

ABSTRACT: Two problems pertaining to long-distance tropospheric propagation of radio waves in the 10-cm band have been investigated. The first concerned the autocorrelation function and the fluctuation spectrum of signal levels. The investigations were carried out for distances of 120, 200, 250, and 350 km. A 200-kw pulse-radar transmitter was utilized. The radar antenna was a paraboloid of revolution of 18λ in diameter (at half-power points, the width of the antenna pattern was 4.5°). An identical antenna was used by the receiver.

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L 17665-65
ACCESSION NR: AP4043713

Receiver sensitivity was of the order of 10^{-13} w. From the output of receiver video-amplifier the signal was fed to a detector and then to a 1-f amplifier, and recorded on film or paper tape. The autocorrelation function $R(\tau)$ was calculated by substituting an aggregate of discrete values for the continuous signal $x(t)$. Quantization intervals Δt were 0.2 sec. The semianalytical method was used to calculate the fluctuation spectra on the basis of the experimental $R(\tau)$ curves. The experimental data demonstrated that in long-distance tropospheric propagation, the signals are very non-stationary. The second problem studied was angular diversity reception. In order to find out the potentialites of such a method the decline in signal correlation during the separation of the primary exciters and the decrease of the mean signal level during withdrawal of the exciter from the focus were investigated experimentally in the summer of 1961 for distances of 60, 120, and 200 km by means of the same transmitting equipment as for the autocorrelation function. A 3 m paraboloid of revolution with a two-channel exciter served as the receiver. The exciter consisted of two grids formed by waveguides with a cross section 72 x 4 mm. The design of the exciter made it possible to separate

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ACCESSION NR: AP4043713

the channel electric centers in the range of 0--180 mm in the focal plane; at the same time the radiation pattern expanded between 0 and 7°. As a result of the investigation, it was concluded that as compared to the usual method of space diversity reception, angular reception is simpler and cheaper. On the other hand space diversity reception has the advantage of maintaining the mean signal level, while in an angular diversity reception the expansion of radiation patterns results in a decrease of the mean signal level. Orig. art. has: 8 figures and 4 formulas.

ASSOCIATION: none

SUBMITTED: 12Aug63 ENCL: 00 SUB CODE: EC

NO REF SOV: 006 OTHER: 002

Card 3/3

ACC NR: AM5027749 Monograph UR/ 16

Armand, N. A.; Vvedenskiy, B. A.; Gusyatinskiy, I. A.; Igoshev, I.P.; Kazakov, L. YA.; Kalinin, A. I.; Nazarova, L. G.; Nemirovskiy, A. S.; Prosin, A.V.; Ryskin, E. YA.; Sokolov, A. V.; Tarasov, V.A.; Tashkov, P. S.; Tikhomirov, YU. A.; Troitskiy, V. N. Fedorova, L. V.; Chernyy, F. B.; Shabel'nikov, A. V.; Shirey, R. A.; Shifrin, YA. S.; Shur, A. A.;; YAkovlev, O. I.; Kolosov, M. A.; Lovshin, I. P.; Lomakin, A. M.

Upper tropospheric propagation of ultrashort radio waves (Dal'neye troposfernoye rasprostraneniye ul'trakorotkikh radiovoln) Moscow, Izd-vo "Sovetskoye radio", 1965. 414 p. illus., biblio. 4000 copies printed.

TOPIC TAGS: radio wave propagation, tropospheric radio wave, radio communication, space communication, tropospheric scatter communication, signal processing, signal distortion, field theory

PURPOSE AND COVERAGE: This monograph is intended for specialists working in the field of radiowave propagation, designers of long-distance radio communication systems, and teachers and students of the advanced courses in schools of higher technical education. The monograph contains, for the most part, heretofore unpublished results of Soviet experimental and theoretical investigations in the field of long-distance tropospheric ultrashortwave propagation.

Card 1/10 UDC: 621.371.24

ACC NR: AM5027749

Problems of investigating the troposphere by means of refractometers, the mean level of signals, meteorological conditions and topography, fluctuation of arrival angles and distortions of antenna directivity patterns, losses in antenna gain, and quick and slow fadings of signal levels are discussed. The statistical characteristics of the signals at diversity reception in time, space, frequency and angle as well as the distortion of signals in the communication systems are also investigated. The long-distance propagat- theory is analyzed, and the engineering method of calculating field intensity at long-distance tropospheric propagation is given. At present, there is no theory of Long-Distance Tropospheric Propagation which can be applied effectively enough in practice. Thus, in the investigation of that propagation, considerable attention has to be paid to experiments. The special characteristics of geographical conditions of the territory involved should be taken into consideration during the analysis of experimental data and in their practical application because the conditions of propagation in arctic and tropical climates differ from those existing over seas and continents. A considerable part of the monograph deals with the investigations of long-distance tropospheric propagation carried out over dry land routes, 800 km long, in the central part of the USSR under the general supervision of B. A. Vvedenskiy and A. G. Arenberg (up to 1957). V. I. Siforov investigated problems con-

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ACC NR: AM5027749

nected with distortions and fluctuations of signals. References follow each chapter.

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ACC NR: AM5027749

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SHIFRIN, Ye.

Changes in U.S. agriculrure since the Second World War. Vop.ekon. no.6:87-102 Je '56. (MLRA 9:8)
(United States--Agriculture)

S/096/63/000/003/006/010
E194/E455

AUTHORS: Markin, V.F., Candidate of Technical Sciences, Gutkin, I.A., Engineer, Kostyuk, A.G., Candidate of Technical Sciences, Shifrin, Ye.L., Engineer

TITLE: The influence of transient heat-exchange on the process of regulating gas-turbine sets

PERIODICAL: Teploenergetika, no.3, 1963, 38-42

TEXT: In governing a gas turbine it is not the amount of gas flow which is regulated (as is the case in a steam turbine) but the amount of heat applied to the flow. Under steady-state conditions a steady temperature distribution is achieved between the various parts of the gas duct and the gas flowing through it. However, under transient conditions, the gas duct may either give up heat to the gas or extract heat from it, thus temporarily modifying the influence of the regulator. This effect can be of considerable practical significance. The differential equation for a gas-turbine regenerator is derived in the form

$$\frac{d\theta}{dz} = \frac{\mu}{\tau_\mu} + \frac{\theta}{\tau_\theta} + \frac{\nu}{\tau_\nu} + \frac{\rho}{\tau_\rho} \qquad (8)$$

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where $\theta = \Delta T_e/T_{e\,o}$; $\mu = \Delta B/B_o$; $\nu = \Delta G/G_o$; $\rho = \Delta\varepsilon/\varepsilon_o$; T_e - air temperature beyond regenerator, °K; B - rate of fuel consumption; G - rate of air consumption, ε - compression ratio. This equation was used to calculate the effect when a turbine picks up load and it is shown that because of transient cooling in the regenerator the temporary loss of output is greater than it otherwise would be. The problem cannot be overcome by increasing the regulator speed but a solution may be achieved by temporary over-regulation. The device used by the "Ekonomayzer" Works to achieve such temporary over-regulation of a gas turbine type ГТУ-6 (GTU-6) is then described. In basic principle there is only one fuel-control valve, which over-travels in the first stage of the transient process and gradually returns to the correct setting. Two servo-motors are used in the regulator. Comparative test results on a gas turbine type GTU-6 with the normal regulator and with this special one are quoted for cases of picking up and throwing off 100% load. There is a substantial improvement in performance with the new regulator. The use of temporary over-regulation avoids the need to alter the

The influence of transient ...

static characteristics of the regulation system; perfection has not yet been achieved but further improvement is possible. It should be noted that a regenerator does not always distort the transient process, but only in such cases when at different loads the temperature gradient between the regenerator wall and gas changes markedly. The greatest change occurs in gas turbines in which a compressor of flat characteristic runs at approximately constant speed. The main criterion in assessing the probable influence of the regenerator on the transient process is the gas temperature beyond the turbine. The more this changes on change of load the greater the influence of the regenerator on the transient process. There are 5 figures.

ASSOCIATION: Moskovskiy energeticheskiy institut - zavod "Ekonomayzer" (Moscow Power Engineering Institute - "Ekonomayzer" Works)

GUTKIN, I.A., inzh.; SHIFRIN, Ye.L., inzh.; GOL'DZAND, L.D., inzh.; KIRAKOSYANTS, G.A., kand.tekhn.nauk.

Hydraulic system of control and protection of the OSPT-1150 turbine pump. Energomashinostroenie 9 no.9:11-14 S '63. (MIRA 16:10)

SHIFRIN, Ye.L., inzh.; GARKAVI, V.A., inzh.

Stability of the parallel operation of centrifugal pumps.
Energomashinostroenie 10 no.7:8-11 Jl '64. (MIRA 17:9)

Shifrina, A. G.

KAPLAN, A.Ya.; SHIFRINA, A.G.

Sleep therapy in the compound treatment of chronic gunshot osteomyelitis. Trudy Inst. klin. i eksp. khir. i eksp. khir. AN Kaz. SSR 1:114-120 '54 (MLRA 10:5)

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(SLEEP--THERAPEUTIC USE) (OSTEOMYELITIS)

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AUTHORS: Vasilevskaya, L. S., Shifrina, G. G. SOV/32-25-6-49/53

TITLE: Ftoroplast-4 as Platinum Substitute (Ftoroplast-4 kak zamenitel' platiny)

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ABSTRACT: Experiments were carried out in the course of which it was found that polytetrafluoroethylene ("Ftoroplast-4") (Ref 1) may be used, partly as a substitute of platinum, glass, and quartz for the production of laboratory devices. Cups of five different sizes were made of Ftoroplast foils (200 . 200 . 4 mm) and bars (60 mm long and 27 mm in diameter), produced in Russia. They were exposed to the effect of a mixture of hydrochloric- and nitrohydrochloric acid at 100° (in the water bath) during 60 hours. Apart from this particularly pure reagents were evaporated in these plastic vessels and the residue investigated according to a spectral method of S. M. Solodovnik et al. Parallel experiments were made in platinum and quartz vessels. The results of analysis obtained (Table) show that the evaporation in Ftoroplast vessels at temperatures of up to 250-300° does not lead to a higher degree of impurities of the substance to be investigated and to a higher degree of dissolution

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of the plastic than it is the case with platinum. The Analiticheskaya komissiya pri GEOKhI AN SSSR (Analytical Committee at the GEOKhI AS USSR) permitted the use of Ftoroplast vessels. There are 1 table and 1 Soviet reference.

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